What is Claimed:

1. A grid polarizer comprising:

a substrate; and

a plurality of stacked metal and dielectric layers, having a width w, disposed on the substrate and forming a parallel grid of stacked layers, the stacked layers spaced apart to form a repetition space between the stacked layers, Λ, such that no diffraction orders are allowed to propagate except the zero order resulting in a grid polarizer that is capable of transmitting substantially all illumination of a given polarization while suppressing at least of portion of the illumination reflected due to an orthogonal polarization component.

2. The polarizer of claim 1, wherein the device is capable of suppressing substantially all of the illumination of a given polarization while suppressing at least of portion of the illumination reflected due to an orthogonal polarization component.

3. The polarizer of claim 1, wherein the device comprises first, second and third layers.

4. The polarizer of claim 3, wherein the first layer comprises a metal and is adjacent the substrate, the second layer comprises a dielectric and is adjacent the first layer, and the third layer comprises a metal and is adjacent the second layer.

5. The polarizer of claim 3 wherein the first metal and third metal layers comprise either gold or alumina and the second dielectric layer comprises either Si or SiO_2

6. The polarizer of claim 3, wherein the thickness of the first layer is thicker than the penetration depth of the metal comprising the first layer such that the layer reflects substantially all incident light polarized in a direction parallel to the orientation of the grid.

7. The polarizer of claim 4, wherein the thickness of the third layer has a thickness operable to allow transmission into the second layer.

8. The polarizer of claim 4 wherein the thickness of the third layer is less than or equal to 100nm.

9. The polarizer of claim 5, wherein the thickness of the first layer is at least 7 times greater than the thickness of the third layer.

10. The polarizer of claim 5, wherein the thickness of the first layer is at least 10 times greater than the thickness of the third layer.

11. The polarizer of claim 1 wherein the repetition space, period Λ satisfies the following the equation: $\Lambda < \frac{\lambda}{n_t - n_i \sin\theta}$, wherein λ represents the operating wavelength of the polarizer, and *n1* represents the index of the incidence media.

12. The polarizer of claim 1 wherein the repetition space, Λ, is dependent on the intended operating wavelength of the grid polarizer and ranges from 100 to about 1000nm.

13. The polarizer of claim 7 wherein the operating wavelength is 1550nm and the period Λ ranges from 250 to 700nm.

14. The polarizer of claim 3, wherein the operating wavelength is 1550nm and the stacked layers exhibit a width ranging between about 100 to 300 nm.

15. The polarizer of claim 13, wherein each of the stacked layers have a substantially equal width.

16. The polarizer of claim 13, wherein each of the stacked layers has a varying width.

17. The device of claim 3, further comprising Fig. 9 embodiment.

18. The device of claim 3, wherein the substrate includes etched regions.

19. The device of claim 17, wherein the etched regions are disposed between the stacked layers.

20. The device of claim 17, wherein the depth of the etched regions is selected increase the total transmission of light through the polarizer.

21. The device of claim 1 wherein the transmission intensity as represented by the following equation $I_r = |E_r|^2 = \dfrac{(r+1-a)^2 - 4r(1-a)\sin^2\frac{1}{2}\varphi}{(r+1)^2 - 4r\sin^2\frac{1}{2}\varphi}$ is less than 1, wherein *Er* represents the total reflected field, *a* represents the absorption experienced by the incident illumination upon interaction with the interface of first metal layer and the dielectric layer and *r* represents the reflection coefficient.

22. The device of claim 21 wherein the transmission intensity is equal to 0.